

EXHIBIT 3

Anthony Wechselberger

Personalized Media Communications, LLC v. Apple Inc.

Case No. 15-cv-01366-JRG-RSP

Experience & Qualifications



B.S. and M.S. in Electrical Engineering



Over 45 Years of Experience in Communications and Encryption



Named Inventor on 2 Patents



Authored Roughly 30 Publications and Presentations On Digital Communications, Signal Processing, Content Security, And Rights Management

The '091 Patent Claims

13. A method of decrypting programming at a receiver station, said method comprising the steps of:
receiving an encrypted digital information transmission including encrypted information;
detecting in said encrypted digital information transmission the presence of an instruct-to-enable signal;
passing said instruct-to-enable signal to a processor;
determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;
locating said first decryption key based on said step of determining;
decrypting said encrypted information using said first decryption key; and
outputting said programming based on said step of decrypting.

DTX-3 ('091 Patent), Claim 13

14. The method of claim 13, further comprising the step of computing a second decryption key, and wherein said step of decrypting comprises decrypting said encrypted information using said first and second decryption keys.

DTX-3 ('091 Patent), Claim 14

15. The method of claim 14, wherein said first and second decryption keys are used to decrypt a video portion of said programming.

DTX-3 ('091 Patent), Claim 15

16. The method of claim 13, further comprising the step of storing information evidencing said step of decrypting.

DTX-3 ('091 Patent), Claim 16

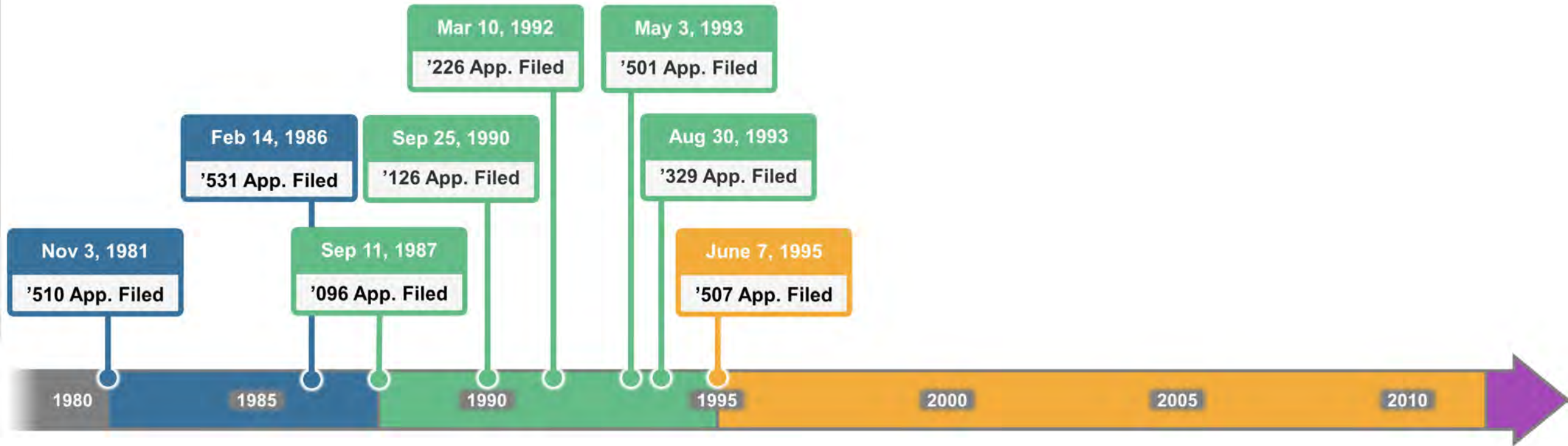
Legend:
 — PROGRAM
 - - - CONTROL INFORMATION
 . . . SOUND SIGNAL

DTX-3.00001

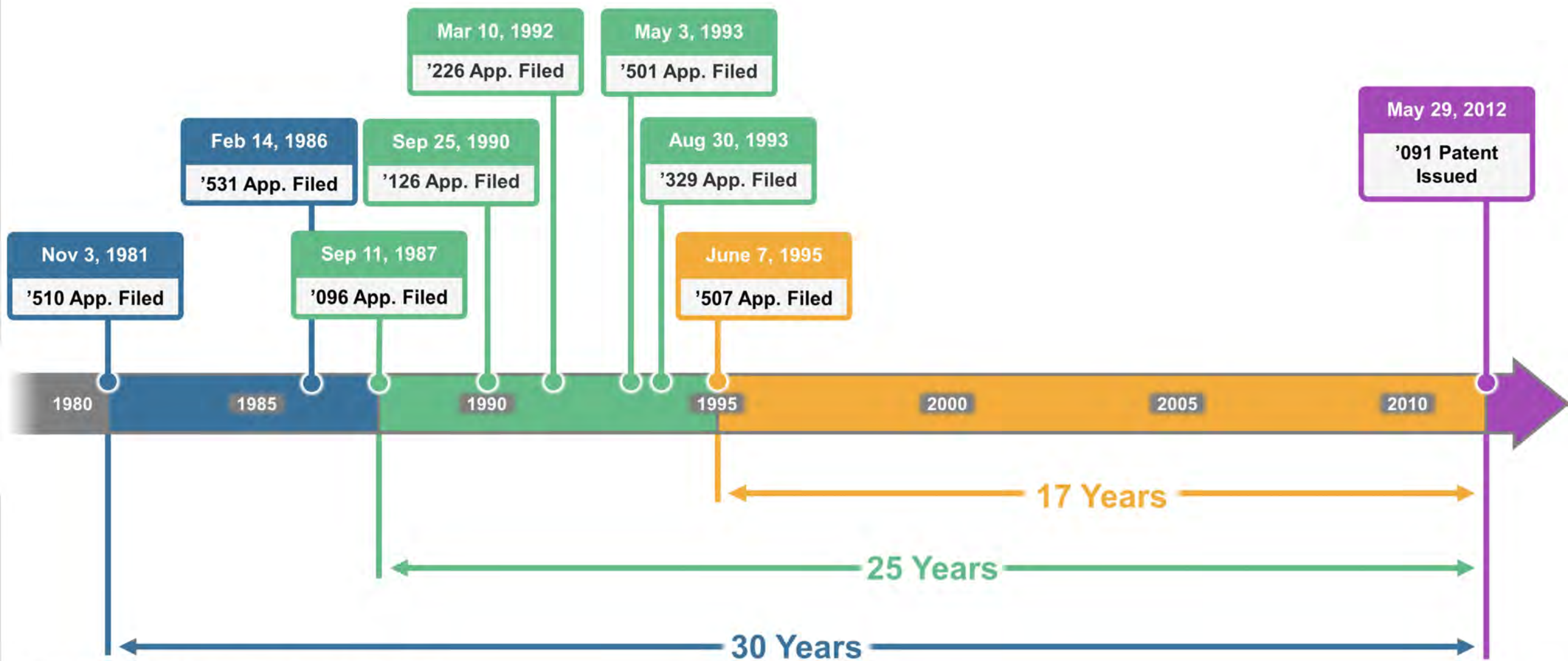
DTX-3

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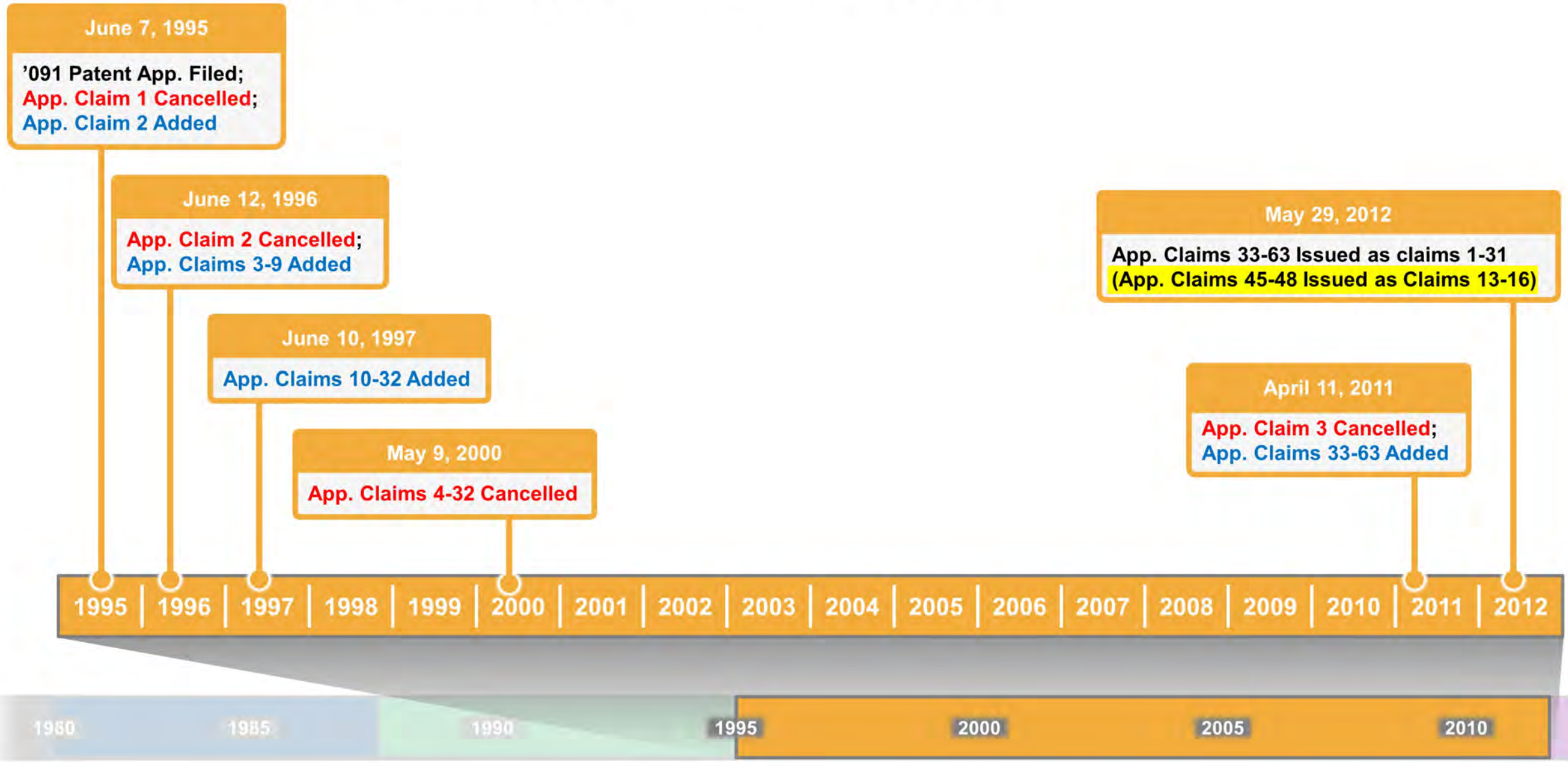
Prosecution of PMC's '091 Patent



Prosecution of PMC's '091 Patent



Prosecution of PMC's '091 Patent



The '277 Patent

United States Patent [19] **Patent Number:** 5,335,277
Harvey et al. [45] **Date of Patent:** Aug. 2, 1994

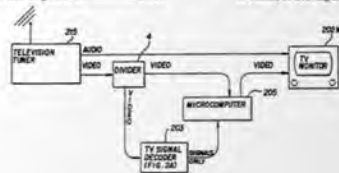
[54] **SIGNAL PROCESSING APPARATUS AND METHODS**
 [75] **Inventors:** John C. Harvey; James W. Cuddihy, both of New York, N.Y.
 [73] **Assignee:** The Personalized Mass Media Corporation, New York, N.Y.
 [21] **Appl. No.:** 56,501
 [22] **Filed:** May 3, 1993

Related U.S. Application Data
 [63] Continuation of Ser. No. 549,226, Mar. 10, 1992, Pat. No. 5,233,654, which is a continuation of Ser. No. 588,126, Sep. 25, 1990, Pat. No. 5,109,414, which is a continuation of Ser. No. 96,096, Sep. 11, 1987, Pat. No. 4,965,825, which is a continuation-in-part of Ser. No. 829,531, Feb. 14, 1986, Pat. No. 4,704,725, which is a continuation of Ser. No. 317,510, Nov. 3, 1981, Pat. No. 4,694,490.

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 2,769,023 10/1956 Lowe et al. 178/5.1
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 2,864,665 12/1958 Munn 178/5.1
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 3,573,747 4/1971 Adams et al. 340/172.5
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 3,609,697 9/1971 Blyumen et al. 340/172.5
 3,657,699 4/1972 Roebler et al. 340/146.1
 3,659,046 4/1972 Angeli et al. 178/22

ABSTRACT
 A unified system of programming communication. The system encompasses the prior art (television, radio, broadcast hardcopy, computer communications, etc.) and new user specific mass media. Within the unified system, parallel processing computer systems, each having an input (e.g., 77) controlling a plurality of computers (e.g., 205), generate and output user information at receiver stations. Under broadcast control, local computers (73, 205), combine user information selectively into prior art communications to exhibit personalized mass media programming at video monitors (202), speakers (263), printers (221), etc. At intermediate transmission stations (e.g., cable television stations), signals in network broadcasts and from local inputs (74, 77, 97, 98) cause control processors (71) and computers (73) to selectively animate connections and operation of receivers (53), recorder/players (76), computers (73), generators (82), strippers (83), etc. At receiver stations, signals in received transmissions and from local inputs (238, 218, 22) cause control processors (206) and computers (205) to automate connection and operation of converters (203), tuners (215), decoders (224), recorder/players (217), meter and monitor availability and usage of programming.

66 Claims, 22 Drawing Sheets



DTX-420
 PMC, LLC & APPLE, INC.
 10000 Apple Way
 Cupertino, CA 95014

APL-PMC_00003474

DTX-420.00001

DTX-420

United States Patent [19] Harvey et al.

[11] **Patent Number:** 5,335,277
 [45] **Date of Patent:** Aug. 2, 1994

[54] SIGNAL PROCESSING APPARATUS AND METHODS

[75] **Inventors:** John C. Harvey; James W. Cuddihy, both of New York, N.Y.

[73] **Assignee:** The Personalized Mass Media Corporation, New York, N.Y.

[21] **Appl. No.:** 56,501

[22] **Filed:** May 3, 1993

3,668,307 6/1972 Face et al. 178/5.6
 3,684,823 8/1972 McVoy 178/5.1
 3,693,090 9/1972 Gabriel 325/308
 3,703,684 11/1972 McVoy 325/31

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 (List continued on next page.)

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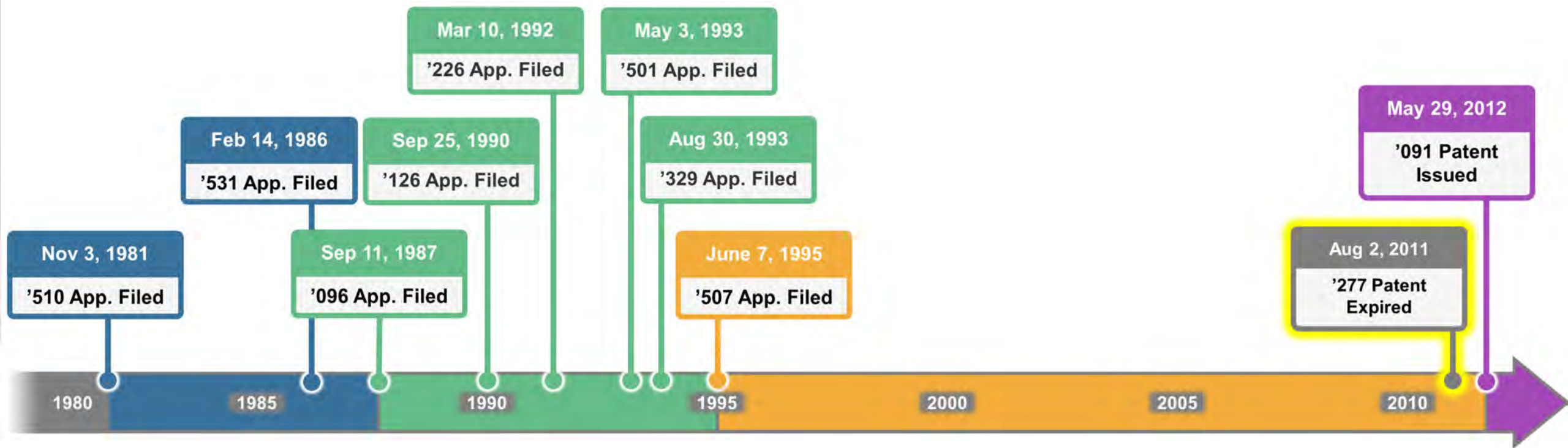
Barlow, "The Design of an Automatic Machine Assignment System", *Journal of the SMPTE*, Jul. 1975, vol. 84, pp. 532-537.

(List continued on next page.)

Primary Examiner—David C. Cain
Attorney, Agent, or Firm—Howrey & Simon

[63] Continuation of Ser. No. 849,226, Mar. 10, 1992, Pat. No. 5,233,654, which is a continuation of Ser. No. 588,126, Sep. 25, 1990, Pat. No. 5,109,414, which is a continuation of Ser. No. 96,096, Sep. 11, 1987, Pat. No. 4,965,825, which is a continuation-in-part of Ser. No. 829,531, Feb. 14, 1986, Pat. No. 4,704,725, which is a continuation of Ser. No. 317,510, Nov. 3, 1981, Pat. No. 4,694,490.

Prosecution of PMC's '091 Patent



Dec 10, 1996 (DTX-1494.0784-822 at 792)

patentable demarcation between related applications. It has been noted by the PTO that many of the pending applications have similar claimed subject matter. In the related 327 applications (the serial numbers are included in a list below), it is estimated that there may be between 10,000 and 20,000 claims.

July 7, 1998 (DTX-1494.890-912 at 893, 898-899)

DOUBLE PATENTING BETWEEN APPLICATIONS

4. Conflicts exist between claims of the following related co-pending applications

* * *

pending applications identified above. However, an analysis of all claims in the 329 related co-pending applications would be an extreme burden on the Office requiring millions of claim comparisons.

Mar 21, 2001 (DTX-1494.932-937)

eliminate conflicting claims or notify the Office of conflicting claims. Upon review by the Office of a sampling of the specifications and the thousands of claims, it is a fact that some of the claims are conflicting. Assuming the oaths made under 37 C.F.R. § 1.63, are sound, then the



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July 7, 1998 (DTX-1494.890-912 at 899)

In order to resolve the conflict between applications, applicant is required to either:

(1) file terminal disclaimers in each of the related applications terminally disclaiming each of the other 329 applications, or;

(2) provide an affidavit attesting to the fact that the above identified inventions have been reviewed by applicant and that no conflicting claims exist between the applications. Applicant should provide all relevant specific steps taken to insure that no conflicting claims exist between the applications, or;

(3) resolve all conflicts between claims in the above identified inventions by identifying how all the claims in the instant application are distinct and separate inventions from all the claims in the above identified inventions. Examples in the attached Appendix are merely illustrative of how correcting the five identified conflicts would not satisfy the requirement.

Failure to comply with the above requirement will result in the instant application being abandoned.

Mar 21, 2001 (DTX-1494.932-937 at 934)

USPTO examination of their applications. Under the Administrative Requirement mailed in the Office action issued on July 7, 1998, the applicants are given reasonable choices:

(1) file terminal disclaimers in each of the [related] applications terminally disclaiming each of the other . . . applications, or;

(2) provide an affidavit attesting to the fact that all claims in the co-pending applications have been reviewed by applicant and that no conflicting claims exist between the applications; or

(3) resolve all conflicts between claims in the identified co-pending applications by identifying how all the claims in the instant application are distinct and separate inventions from all the claims in the identified co-pending applications.

June 18, 2002 (DTX-1494.973-975 at 974)

In order to resolve conflicts between applicants' applications, the Administrative Requirement was imposed in this application and in certain of applicants' co-pending applications. Under the Administrative Requirement, applicants are required to:

(1) file terminal disclaimers in each of the related co-pending applications terminally disclaiming each of the other co-pending applications;

(2) provide an affidavit attesting to the fact that all claims in the co-pending applications have been reviewed by applicant and that no conflicting claims exist between the applications; or

(3) resolve all conflicts between claims in the identified co-pending applications by identifying how all the claims in the instant application are distinct and separate inventions from all the claims in the identified co-pending applications.



Dec 10, 1996 (DTX-1494.0784-822 at 900)

April 7, 1997. In view of the unusually large number of references cited in the instant application (approximately 2,200 originally and 645 in the subsequent IDS) and the failure of applicant to point out why such a large number of references is warranted, these references have been considered in accordance with 37 C.F.R. 1.97 and 1.98 to the best ability by the examiner with the time and resources available.

The foreign language references cited therein where there is no statement of relevance or no translation are not in compliance with 37 C.F.R. 1.98 and have not been considered. Numerous references listed in the IDS are subsequent to applicant's latest effective filing date of 9/11/87, therefore, the relevancy of these references is unclear. Also cited are numerous references that are apparently unrelated to the subject matter of the instant invention such as: US Patent # 33,189 directed toward a beehive, GB 1565319 directed toward a chemical compound, a cover sheet with only the word "ZING", a computer printout from a library search with the words "LST" on it and a page of business cards including that of co-inventor James Cuddihy, among others. The relevancy of these references cannot be ascertained. Furthermore, there are several database search results listed in foreign languages (such as German) which list only the title and document information; no copy has been provided, therefore, these references have not been considered.

1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012

1980

1985

1990

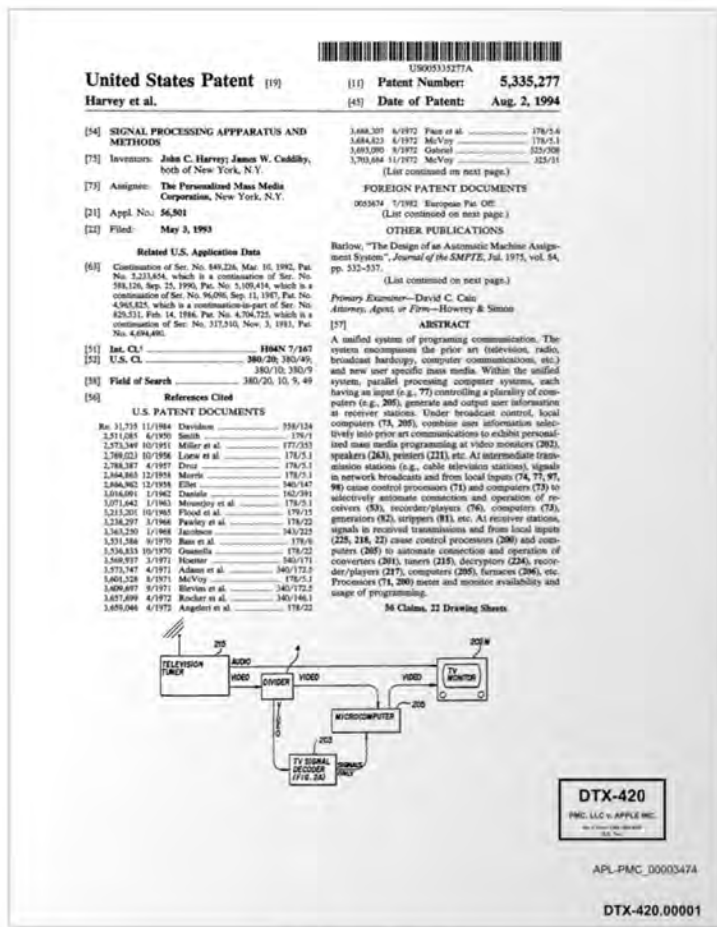
1995

2000

2005

2010

The '277 Patent



DTX-420

22. A television subscriber station comprising:
 a receiver for receiving a plurality of television program transmissions;
 a tuner for tuning said receiver to a selected one of the plurality of television program transmissions and of informing a processor of the selected transmission to which said receiver is tuned;
 a decryptor operatively connected to said receiver for receiving, decrypting, and outputting some of said selected television program transmission; and
 a processor operatively connected to said tuner and said decryptor, for receiving information transmitted in a selected program transmission, locating or identifying information of an instruct-to-decrypt signal associated with said selected transmission, and identifying and transferring to said decryptor a signal needed for decryption, said processor being programmed with or preinformed of the technique for identifying information of said signal needed for decryption.

DTX-420 ('277 Patent), Claim 22

Obviousness of the '091 Patent Claims

13. A method of decrypting programming at a receiver station, said method comprising the steps of:
receiving an encrypted digital information transmission including encrypted information;
detecting in said encrypted digital information transmission the presence of an instruct-to-enable signal;
passing said instruct-to-enable signal to a processor;
determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;
locating said first decryption key based on said step of determining;
decrypting said encrypted information using said first decryption key; and
outputting said programming based on said step of decrypting.

DTX-3 ('091 Patent), Claim 13

22. A television subscriber station comprising:
a receiver for receiving a plurality of television program transmissions;
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a decryptor operatively connected to said receiver for receiving, decrypting, and outputting some of said selected television program transmission; and
a processor operatively connected to said tuner and said decryptor, for receiving information transmitted in a selected program transmission, locating or identifying information of an instruct-to-decrypt signal associated with said selected transmission, and identifying and transferring to said decryptor a signal needed for decryption, said processor being programmed with or preinformed of the technique for identifying information of said signal needed for decryption.

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DTX-420 ('277 Patent), Claim 22

Obviousness of the '091 Patent Claims

13. A method of decrypting programming at a receiver station, said method comprising the steps of:
 receiving an encrypted digital information transmission including encrypted information;
 detecting in said encrypted digital information transmis-

Encrypted Digital Information Transmission

“all-digital information that has been encrypted and moved between at least two devices”

Encrypted

“an operation performed on digital data in conjunction with an associated algorithm and digital key to render the digital data unintelligible or unusable”

Decrypting / Decryption

“a method that uses a digital key in conjunction with an associated algorithm to decipher (render intelligible or usable) digital data”

22. A television subscriber station comprising:
 a receiver for receiving a plurality of television program transmissions;
 a tuner for tuning said receiver to a selected one of the plurality of television program transmissions and of informing a processor of the selected transmission to which said receiver is tuned;
 a decryptor operatively connected to said receiver for receiving, decrypting, and outputting some of said selected television program transmission; and
 a processor operatively connected to said tuner and said decryptor, for receiving information transmitted in a selected program transmission, locating or identifying information of an instruct-to-decrypt signal associated with said selected transmission, and identifying and transferring to said decryptor a signal needed for decryption, said processor being programmed with or preinformed of the technique for identifying information of said signal needed for decryption.

DTX-420 ('277 Patent), Claim 22

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DTX-420 ('277 Patent), Claim 22

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 determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;
 locating said first decryption key based on said step of determining;
 decrypting said encrypted information using said first decryption key; and
 outputting said programming based on said step of decrypting.

DTX-3 ('091 Patent), Claim 13



Instruct-To-Enable Signal



“a signal that enables the implementation of the enumerated operation”

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DTX-420 ('277 Patent), Claim 22

Obviousness of the '091 Patent Claims

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 locating said first decryption key based on said step of determining;
 decrypting said encrypted information using said first decryption key; and
 outputting said programming based on said step of decrypting.

DTX-3 ('091 Patent), Claim 13



Decrypting / Decryption



“a method that uses a digital key in conjunction with an associated algorithm to decipher (render intelligible or usable) digital data”

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 a decryptor operatively connected to said receiver for receiving, decrypting, and outputting some of said selected television program transmission; and
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DTX-3 ('091 Patent), Claim 13



Determining A Fashion ...



“determining the way the receiver station locates a first decryption key”

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DTX-3 ('091 Patent), Claim 13

14. The method of claim 13, further comprising the step of computing a second decryption key, and wherein said step of decrypting comprises decrypting said encrypted information using said first and second decryption keys.

DTX-3 ('091 Patent), Claim 14

15. The method of claim 14, wherein said first and second decryption keys are used to decrypt a video portion of said programming.

DTX-3 ('091 Patent), Claim 15

16. The method of claim 13, further comprising the step of storing information evidencing said step of decrypting.

DTX-3 ('091 Patent), Claim 16

Obviousness of the '091 Patent Claims

In a receiver, the reverse operation is carried out. It is first necessary for a customer to decrypt the second key P using his distribution key D before the session key S can be recovered for decrypting the information signal. Thus a first decryption circuit 20 responsive to distribution key D is provided for decrypting the second key P and a second decryption circuit 21 responsive to the second key P is provided for decrypting the session key S which is then used in a third decryption circuit 23 for decrypting the information signal A.

DTX-406 (Mason) at 3:13-22

Decryption is performed as indicated schematically in FIG. 21. The incoming data is supplied to a decryption algorithm as indicated at 210, as are one or more keys. The keys may comprise one of the several keys-of-the-month stored in EEPROM after supply to the decoder as part of an individually addressed packet, as noted at 212, the secret serial number sorted in the microprocessor at manufacture, as noted at 214, and/or the system key transmitted as part of the system data in line 3 of the VBI, as noted at 216.

DTX-415 (Seth-Smith) at 38:22-35

Obviousness of the '091 Patent Claims

13. A method of decrypting programming at a receiver station, said method comprising the steps of:
receiving an encrypted digital information transmission including encrypted information;
detecting in said encrypted digital information transmission the presence of an instruct-to-enable signal;
passing said instruct-to-enable signal to a processor;
determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;
locating said first decryption key based on said step of determining;
decrypting said encrypted information using said first decryption key; and
outputting said programming based on said step of decrypting.

DTX-3 ('091 Patent), Claim 13

14. The method of claim 13, further comprising the step of computing a second decryption key, and wherein said step of decrypting comprises decrypting said encrypted information using said first and second decryption keys.

DTX-3 ('091 Patent), Claim 14

15. The method of claim 14, wherein said first and second decryption keys are used to decrypt a video portion of said programming.

DTX-3 ('091 Patent), Claim 15

16. The method of claim 13, further comprising the step of storing information evidencing said step of decrypting.

DTX-3 ('091 Patent), Claim 16

Obviousness of the '091 Patent Claims

15. The method of claim 14, wherein said first and second decryption keys are used to decrypt a video portion of said programming.

DTX-3 ('091 Patent), Claim 15

22. A television subscriber station comprising:
a receiver for receiving a plurality of television program transmissions;
a tuner for tuning said receiver to a selected one of the plurality of television program transmissions and of informing a processor of the selected transmission to which said receiver is tuned;
a decryptor operatively connected to said receiver for receiving, decrypting, and outputting some of said selected television program transmission; and
a processor operatively connected to said tuner and said decryptor, for receiving information transmitted in a selected program transmission, locating or identifying information of an instruct-to-decrypt signal associated with said selected transmission, and identifying and transferring to said decryptor a signal needed for decryption, said processor being programmed with or preinformed of the technique for identifying information of said signal needed for decryption.

DTX-420 ('277 Patent), Claim 22

Obviousness of the '091 Patent Claims

13. A method of decrypting programming at a receiver station, said method comprising the steps of:
receiving an encrypted digital information transmission including encrypted information;
detecting in said encrypted digital information transmission the presence of an instruct-to-enable signal;
passing said instruct-to-enable signal to a processor;
determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;
locating said first decryption key based on said step of determining;
decrypting said encrypted information using said first decryption key; and
outputting said programming based on said step of decrypting.

DTX-3 ('091 Patent), Claim 13

14. The method of claim 13, further comprising the step of computing a second decryption key, and wherein said step of decrypting comprises decrypting said encrypted information using said first and second decryption keys.

DTX-3 ('091 Patent), Claim 14

15. The method of claim 14, wherein said first and second decryption keys are used to decrypt a video portion of said programming.

DTX-3 ('091 Patent), Claim 15

16. The method of claim 13, further comprising the step of storing information evidencing said step of decrypting.

DTX-3 ('091 Patent), Claim 16

Obviousness of the '091 Patent Claims

Each scrambled program capable of impulse purchase is transmitted with data including the cost of the program in a part of the television signal which does not convey program information (e.g., the vertical or horizontal interval or an unused portion of the audio frequency band). A unique code may also accompany the transmitted cost signal for program identification purposes. If the subscriber's decoder recognizes the program as an impulse purchase program, certain information such as the cost of the program is displayed. To view the program, the subscriber enters into the decoder an appropriate request, and the decoder automatically compares the program cost with the available credit, e.g., by temporary storage of the cost information and subtraction from the existing credit. If the cost does not exceed the credit and the subscriber otherwise is eligible for impulse purchase, the program can be unscrambled and the cost is deducted from the credit or otherwise used to obtain a new credit total. Also, the unique program code, if transmitted with the cost information, is stored for subsequent retrieval as an encoded "use code" so that the subscription TV operator can be provided with a record of the impulse purchase programs viewed.

DTX-399 (Block) at 3:29-52

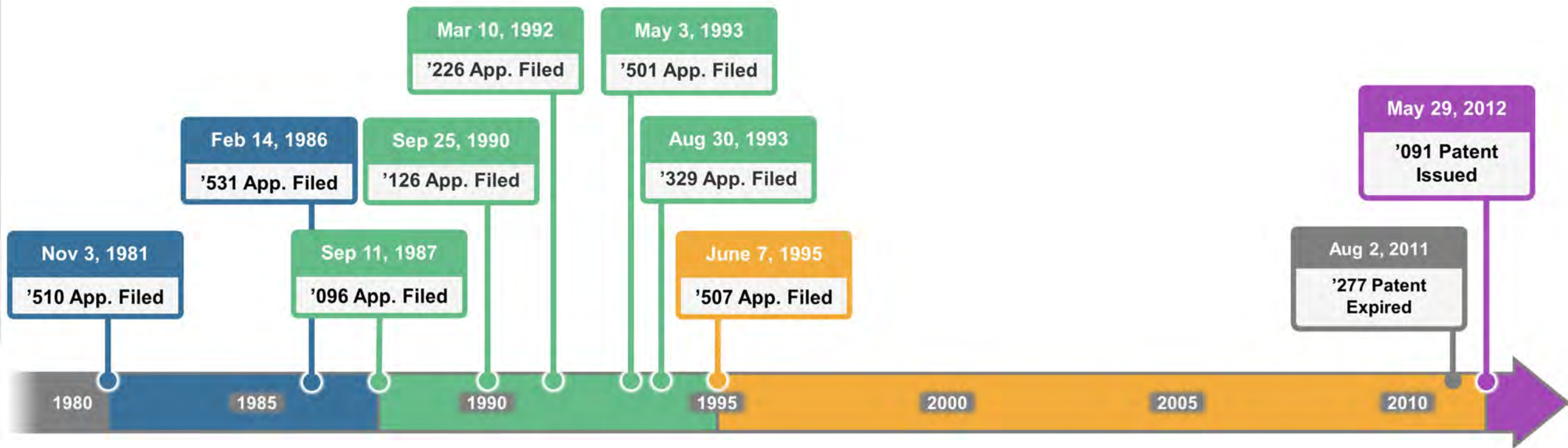
The program number segment of the packet A is a 12-bit item which together with the segment identification forms a program identification. Should a user purchase a program through a pay-per-view arrangement, that is, as opposed to viewing it through its being a member of a tier to which he is authorized access, the program identification is saved in the memory of the microprocessor comprised by the decoder. This is used in order to track pay-per-view billing for the user's convenience.

* * *

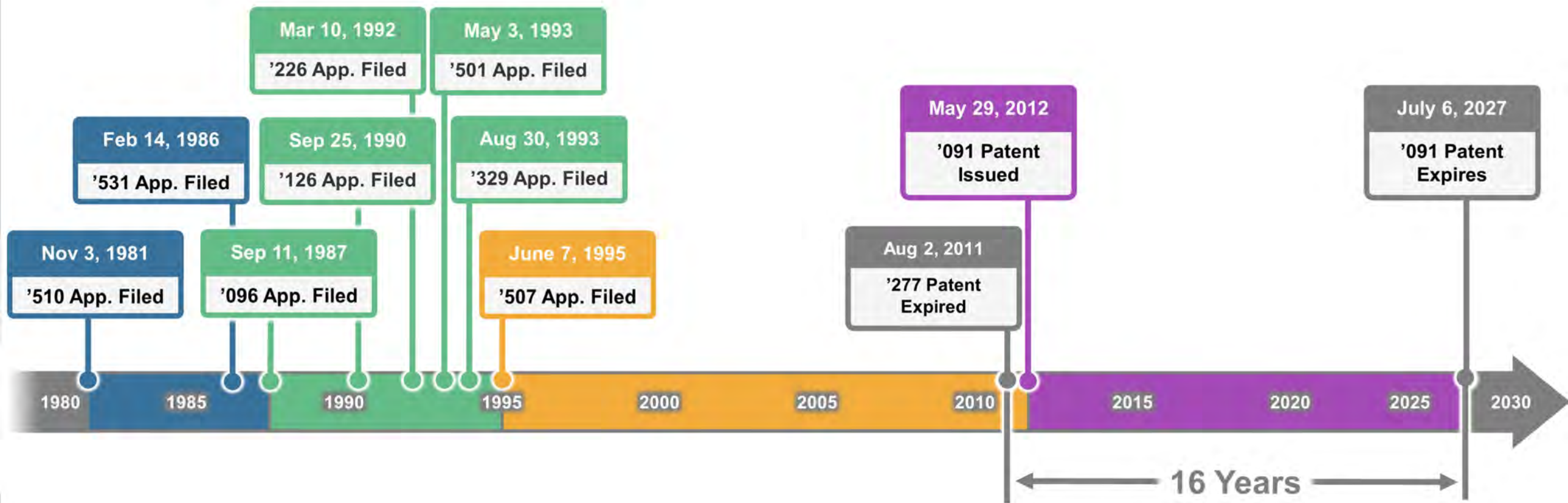
Finally, the tracked program item is a single bit which, if the program is purchased using a pay-perview arrangement, causes the program identification to be saved by the microprocessor.

DTX-415 (Seth-Smith) at 17:54-63, 19:31-34

Prosecution of PMC's '091 Patent



Prosecution of PMC's '091 Patent



Prosecution of PMC's '091 Patent

